

What is claimed:

1. An apparatus for delivering electrical energy to tissue within a patient, comprising:

5 a tubular member comprising a proximal end, a distal end having a size for insertion into a body of a patient, and a lumen extending from the distal end towards the proximal end; and

a needle comprising a distal portion extending at least partially from the lumen and terminating in a tissue-piercing

10 distal tip, the distal portion comprising an electrically conductive and porous material, thereby providing an electrode through which electrolytic fluid may flow for delivering electrical energy to tissue surrounding the distal portion.

15 2. The apparatus of claim 1, wherein the distal portion comprises sintered stainless steel.

3. The apparatus of claim 1, wherein the needle comprises a needle lumen extending from a proximal end of the needle to the
20 distal portion.

4. The apparatus of claim 3, further comprising a source of electrolytic fluid coupled to the needle lumen for delivering electrolytic fluid to the distal portion of the needle.

5 5. The apparatus of claim 1, wherein the entire needle comprises porous material.

6. The apparatus of claim 1, wherein the needle is movable relative to the tubular member for at least one of retracting the
10 distal portion into the tubular member and deploying the distal portion from the tubular member.

7. The apparatus of claim 1, wherein the tubular member comprises an electrically insulating sleeve.

15 8. The apparatus of claim 1, further comprising a plurality of needles extendable from the lumen beyond the distal end of the tubular member, each needle comprising a distal tip for penetrating tissue.

20 9. The apparatus of claim 8, wherein each of the plurality of needles comprises a distal portion comprising an electrically conductive and porous material, thereby providing an array of

porous electrodes through which electrolytic fluid may flow for delivering electrical energy to tissue adjacent the distal portions of the array of electrodes.

5 10. An apparatus for delivering electrical energy to tissue within a patient, comprising:

 a tubular member comprising a proximal end, a distal end having a size for insertion into a body of a patient, and a lumen extending from the distal end towards the proximal end of the
10 tubular member; and

 an array of needles extendable from the lumen beyond the distal end of the tubular member, each needle comprising a distal tip for penetrating tissue, at least one needle comprising a distal portion comprising an electrically conductive and porous
15 material, thereby providing a porous electrode through which electrolytic fluid may flow for delivering electrical energy to tissue adjacent the distal portion.

 11. The apparatus of claim 10, wherein the needles are
20 movable from a retracted configuration within the lumen to an extended configuration wherein distal portions of the needles extend beyond the distal end of the tubular member.

12. The apparatus of claim 11, wherein a plurality of the needles have distal tips that extend different axial and radial distances from one another in the extended configuration.

5 13. The apparatus of claim 11, wherein a distal portion of a plurality of the needles comprises an electrically conductive and porous material defining an electrode.

10 14. The apparatus of claim 10, further comprising a source of conductive fluid connected to the infusion lumen of each needle comprising an infusion lumen.

15 15. The apparatus of claim 14, further comprising a hub proximal to the distal end of the tubular member, the hub comprising a port connected to the source of conductive fluid, the hub communicating with each infusion lumen for delivering conductive fluid from the source of conductive fluid to each porous electrode.

20 16. The apparatus of claim 14, further comprising a float valve connected to the source of conductive fluid for removing gases from conductive fluid being delivered from the source of conductive fluid to each porous electrode.

17. An apparatus for delivering electrical energy to tissue within a patient, comprising:

a tubular member comprising a proximal end, a distal end
5 having a size for insertion into a body of a patient, and a lumen extending between the proximal and distal ends of the tubular member;

a pair of opposing members extendable from the distal end of the tubular member, the opposing members being expandable away
10 from one another and being directable towards one another for engaging tissue between inner surfaces of the opposing members, the opposing members comprising one or more electrodes for delivering electrical energy to tissue engaged between the opposing members; and

15 one or more hollow needles extending from an inner surface of at least one opposing member, each needle comprising a sharpened tip for penetrating tissue engaged between the opposing members and an outlet in the sharpened tip communicating with a lumen in the opposing member for delivering conductive fluid from
20 the lumen into tissue penetrated by the sharpened tip.

18. The apparatus of claim 17, wherein the opposing members extend from a control member extending through the lumen of the

tubular member, and wherein the opposing members are directable towards one another by directing the control member proximally to at least partially withdraw the opposing members into the lumen.

5 19. The apparatus of claim 18, wherein the control member comprises an infusion lumen therein communicating with the outlet of the needle via the lumen in the opposing member

10 20. The apparatus of claim 19, further comprising a source of conductive fluid communicating with the infusion lumen for delivering conductive fluid to the outlet of the needle.

15 21. The apparatus of claim 20, further comprising a float valve connected to the source of conductive fluid for removing gases from conductive fluid being delivered from the source of conductive fluid to the outlet of the needle.

20 22. The apparatus of claim 17, wherein the inner surfaces of the opposing members comprise electrically conductive material defining the electrodes.

23. The apparatus of claim 17, wherein the one or more electrodes comprises one or more electrodes coupled to a first

terminal of a source of electrical energy and one or more electrodes coupled to a second terminal of the source of electrical energy such that the apparatus is operated in a bipolar mode.

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24. The apparatus of claim 17, wherein the tubular member comprises a substantially rigid cannula, and wherein the distal end comprises a sharpened distal tip for penetrating tissue.

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25. The apparatus of claim 17, further comprising a substantially rigid cannula including a sharpened distal tip for penetrating tissue, and wherein the tubular member is insertable through the cannula when the opposing members are withdrawn into the tubular member.

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